AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

Claims 1-27. (Cancelled).

Claim 28. (Currently Amended) ~~A~~ The method of Claim 29 for *in vitro* regeneration comprising the following steps:

- provision of a liver sectate *in vitro*,
- induction of a significant structural growth of the sectate compared with an untreated sectate(control) through administration of EFO, TPO, GH or derivatives thereof on the liver resection surface; and
- where appropriate, use of the treated sectate for the treatment of liver disorders.

Claim 29. (Currently Amended) ~~The~~ A method ~~as claimed in claim 28~~ for *in vitro* regeneration of tissue by multiplying and differentiating cells *in vitro*, characterized in that the growth process of the cells is initiated and terminated, and structurally guided, through the use of the growth factors thrombopoietin (TPO) and/or erythropoietin (EPO), and/or growth hormone (GH), in particular human growth hormone (HGH), and/or somatostatin and/or leukemia inhibitory factor (LIP) and/or ciliary neurotropic factor (CNTF).

Claim 30. (Previously Presented) The method as claimed in claim 29, characterized in that transforming growth factor beta (TGF beta), prostaglandin, granulocyte-macrophage stimulating factor (GM-CSF), growth hormone releasing hormone (GHRH), thyrotropin-releasing hormone (TRH), gonadotropin-releasing

hormone (GnRH), corticotropin-releasing hormone (CRH), dopamine, antidiuretic hormone (ADH), oxytocin, prolactin, adrenocorticotropin, beta-celitropin, lutrotropin and/or vasopressin is employed additionally as growth factor.

Claim 31. (Previously Presented) The method as claimed in claim 29 or 30, characterized in that one or more nerve regeneration factors, preferably nerve growth factor (NGF) and/or one or more vessel regeneration factors, preferably vascular endothelial growth factor (VEGF) and/or platelet derived growth factor (PDGF) are employed in addition.

Claim 32. (Previously Presented) The method as claimed in at least one of claims 29-31, characterized in that the method is carried out in the presence of endothelial cells.

Claim 33. (Previously Presented) The method as claimed in at least one of claims 29 to 32, characterized in that the growth process of the cells is locally initiated and terminated, and structurally guided.

Claim 34. (Previously Presented) The method as claimed in claim 33, characterized in that the growth process of the cells is locally initiated and terminated, and structurally guided, by a biological matrix or by a supporting structure.

Claim 35. (Previously Presented) The method as claimed in claim 34, characterized in that the biological matrix or supporting structure is treated with one of said growth factors or with a combination of said growth factors as mixture or sequentially.

Claim 36. (Previously Presented) The method as claimed in claim 34 or 35, characterized in that an implant, a transplant and/or a supporting material is used as biological matrix or as supporting structure for the growth of cells.

Claim 37. (Previously Presented) The method as claimed in at least one of claims 29 to 36, characterized in that the biological matrix or supporting structure has been precolonized with cells, preferably tissue-specific cells, precursor cells, bone marrow cells, peripheral blood, adipose tissue and/or fibrous tissue, or already prepared *in vitro* for the *in vivo* colonization or the inductive remodeling.

Claim 38. (Previously Presented) The method as claimed in at least one of claims 29-37, characterized in that adult progenitor cells and/or tissue-specific cells, preferably osteoblasts, fibroblasts, hepatocytes and/or smooth muscle cells, are employed as cells.

Claim 39. (Previously Presented) The method as claimed in at least one of claims 29-38 for locally specific and/or directed multiplication, structural growth and subsequent differentiation of adult cells and/or for regeneration of bones, tissues and/or endocrine organs.

Claim 40. (Previously Presented) The method as claimed in at least one of claims 29 to 32, characterized in that the cell aggregates which form where appropriate during the growth process are broken up and, where appropriate, encapsulated and, where appropriate, frozen by means of a suitable device.

Claims 41-52. (Cancelled).